WE CLAIM:

1. In a method for testing semiconductor substrates, wherein a substrate is mounted on a chuck and makes contact with contact needles, said contact needles being connected to enable testing of electrical characteristics of circuit elements on said semiconductor substrate, the improvement wherein said substrate is subjected to acceleration during testing of said electrical characteristics.

2. A method as specified in claim 1 wherein the substrate is subjected to acceleration which is initially positive and is then negative down to the stationary state.

3. A method as specified in claim 1 wherein the acceleration comprises a linear acceleration.

4. A method as specified in claim 3 wherein the linear acceleration takes place in a direction which is parallel to the upper face of the substrate.

5. A method as specified in claim 3 wherein the linear acceleration takes place in a direction which is perpendicular to the upper face of the substrate.

6. A method as specified in claim 1 wherein the acceleration represents a rotary acceleration with respect to a rotation axis which is perpendicular to an upper face of the substrate.

7. A method as specified in claim 2 wherein the acceleration is repeated.

8. A method as specified in claim 7 wherein the substrate is caused to oscillate mechanically.

9. A method as specified in claim 2 wherein the acceleration is produced by a mechanical blow.

10. Apparatus for testing substrates having circuits sensitive to mechanical movement, comprising a chuck having an upper chuck member for holding said substrate, a lower chuck member, connected to a positioning apparatus, and motion producing apparatus interconnecting said upper and lower chuck members for providing relative movement between said members during testing of substrates.

11. Apparatus as specified in claim 10 wherein a lower face of the upper chuck member and an upper face of the lower chuck member are at a distance from one another, forming an intermediate space, and wherein at least one movement element is arranged in the intermediate space and provides motion in a direction perpendicular to an upper face of the substrate.

12. Apparatus as specified in claim 11 wherein three movement elements are provided.

13. Apparatus as specified in claim 11 wherein the upper chuck member and the lower chuck member are connected to one another loaded by spring force and separated by at least one movement element.

14. Apparatus as specified in claim 13 wherein a tensioning pin is mounted on the upper chuck member, projects from a lower face of the upper chuck member through an aperture in the lower chuck member as far as the lower face of the lower chuck member and has a spring

stop at its end under the lower face of the lower chuck member , and wherein a spring is clamped between the spring stop and the lower face of the lower chuck member.

15. Apparatus as specified in claim 10 wherein the upper chuck member is mounted on the lower chuck member in a manner that allows movement in a direction parallel to an upper face of a substrate, and wherein at least one elongated movement element is arranged in an intermediate space along a lower face of the upper chuck member and along an upper face of the lower chuck member, and wherein said movement member is attached at one end to the lower chuck member and at the other end to the upper chuck member.

16. Apparatus as specified in claim 10 wherein the upper chuck member is mounted on the lower chuck member in a manner that allows rotation such that it can rotate about a rotation axis which is perpendicular to an upper face of a substrate wherein at least one elongated movement element is arranged in an intermediate space along a lower face of the upper chuck member and along an upper face of the lower chuck member, said movement element being attached at one end to the lower chuck member, and at the other end to the upper chuck member at a lateral distance from the rotation axis.

17. Apparatus as specified in claim 10 wherein the rotation axis is a virtual rotation axis, and wherein two or more movement elements are arranged between said upper chuck member and said lower chuck member, said movement elements providing torques about the rotation axis in equilibrium with respect to one another.

18. Apparatus as specified in claim 10 wherein the movement elements are in the form of piezoceramic components, which are arranged for connection to a driving circuit.

19. Apparatus as specified in claim 10 wherein contact needles are mechanically connected to the upper chuck member for movement therewith.

20. Apparatus as specified in claim 19 wherein the contact needles are arranged on a needle card, and the needle card is mechanically connected to the upper chuck member.

21. Apparatus as specified in claim 19 wherein the contact needles are provided with needle holders, and wherein a needle holder plate, on which the needle holders can be mounted, is connected to the upper chuck member.